

### ***Designated Action***

**Title:** Other Pesticide Studies

**Geographic Area:** Landscape

**Primary Stressor Addressed:** Water Quality

**Project Type:** Research, monitoring

**Applicant Type and Name:**

**Funding:** The Integration Panel recommends that \$1.5 million be allocated for the four studies described below.

**Cost Share:** None discussed.

#### **Project Description:**

##### **1. Baseline Pesticide Monitoring**

All detailed pesticide monitoring in the Central Valley and Delta has occurred during drought conditions. More monitoring is needed during normal and wet years in order to identify water courses most at risk from pesticide exposure. This information is important for directing the initial implementation of Best Management Practices and as baseline information to evaluate their future success. The Integration Panel recommends that the Interagency Ecological Program's Contaminants Effects Work Group be requested to prepare a multi year monitoring program to determine sources, concentrations, and durations of pesticides in the mainstem Rivers and the Delta. Pesticides evaluated should include chemicals already identified as causing toxicity in surface water and sediment bioassays, and new chemicals used in large amounts in the watershed but for which inadequate information exists. It is estimated that the cost of this monitoring will be approximately \$500,000.

##### **2. Fathead Minnow Toxicity in the Sacramento River**

Toxicity testing in the Sacramento River Watershed has detected a substantial amount of toxicity to the fathead minnow test species. Of particular concern is the fathead minnow mortality observed in approximately 50% of the samples collected from the Sacramento River near Freeport. The ecological significance of this toxicity needs to be determined. The Integration Panel recommends additional funding for existing studies (Sacramento River Watershed Program, UC Davis, and Deltakeeper) in order determine the cause of the observed toxicity and to characterize its presence in receiving waters. The Central Valley Regional Water Quality Control Board should continue to act as lead in coordinating the studies and results. After the toxicity is characterized, the ecological significance of the toxicity needs to be determined through completion of an ecological risk assessment. It is estimated that the cost of this work will be approximately \$400,000.

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### **3. Algal Toxicity**

Toxicity surveys conducted by the Central Valley Regional Water Quality Control Board and Deltakeeper have detected toxicity to the algal species *Selenastrum capricornutum*. Toxicity has been detected in both agricultural and urban drainages and receiving waters on the mainstem Rivers and in the Delta. Past TIEs have indicated that more than one toxicant is responsible for the observed toxicity. The ecological significance of this toxicity needs to be determined. The Integration Panel recommends additional funding for existing studies (UC Davis and Deltakeeper) in order to determine the cause of the observed toxicity and to characterize its presence in receiving waters. The Central Valley Regional Water Quality Control Board should continue to act as lead in coordinating the studies and results. After the toxicity is characterized, the ecological significance of the toxicity needs to be determined through completion of an ecological risk assessment. It is estimated that the cost of this work will be approximately \$500,000.

### **4. Water Quality Criteria for Chlorpyrifos and Diazinon**

The Department of Fish and Game has developed draft criteria documents for the pesticides chlorpyrifos and diazinon. The draft criteria are based on available data, and because there is a lack of data in some areas, the criteria include large safety factors. The Integration Panel recommends funding the Department of Fish and Game to (a) conduct the four studies necessary to fill in the data gaps and then (b) prepare final criteria documents. It is estimated that the cost of this work will be approximately \$100,000.

A more detailed scope of work and cost estimate for the four studies described above will be prepared by the Integration Panel with the help of the IEP Contaminants Workgroup. The scope of work will then be submitted to the Ecosystem Roundtable for additional review before submitted to CALFED for final funding approval.

**ERPP Linkage:** The designated action meets the goals of the Ecosystem Restoration Program Plan (CALFED, Volume II, 28 July 1997) as it should reduce loading, concentrations, and bioaccumulation of contaminants of concern to ecosystem health in the water, sediments, and tissues of fish and wildlife in the Sacramento-San Joaquin Delta Ecological Zone by 25 to 50% as measured against current average levels (page 57).